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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JANAKIRAMAN, NITHYA

ART UNIT PAPER NUMBER

2123

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,450

Applicant(s)

TRAUT, ERIC

Examiner

Nithya Janakiraman

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This action is in response to the application filed on December 12, 2003. Claims 1-40 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1 and 2 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
2. Regarding independent claim 1, a method with no tangible, useful, or concrete result does not constitute statutory subject matter. All depending claims are rejected as well.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-40 are rejected under 35 U.S.C. 102(b) as being anticipated by US PGPub 2003/0061401, Luciani, JR. (hereinafter Luciani).

4. For the purposes of examination, based on Applicant's definitions, "hardware virtual device mode", is interpreted as a virtual device driver, and "idealized virtual device mode" is interpreted as emulation.

5. Regarding claims 1, 11, 21, and 31, Luciani teaches:

A method (computer system, computer system, computer-readable medium) for improving virtual device performance in a computer system, said method comprising utilizing a bimodal virtual device that selectively operates as a hardware virtual device in a first mode and as an idealized virtual device in a second mode (see Abstract, "virtualization or emulation with a programmable logic device programmable by a virtual input device image and virtualization firmware").

6. Regarding claims 2, 12, 22, and 32, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 1 wherein: the bimodal virtual device selectively operates as a hardware virtual device when a driver interfacing with said bimodal virtual device has not been designed to interface with said bimodal virtual device operating in said second mode (see page 2, column 2, "It should be understood that both the local bus 18 and the FPGA 112 have been configured prior to the steps shown for the virtual input device loader); and the bimodal virtual device selectively operates as a idealized virtual device when the driver interfacing with said bimodal virtual device has been designed to interface with

said bimodal virtual device operating in said second mode(see page 2, column 2, "It should be understood that both the local bus 18 and the FPGA 112 have been configured prior to the steps shown for the virtual input device loader).

7. Regarding claims 3, 13, 23, and 33 Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the functionality of the second mode extends the functionality of the first mode (see page 2, column 2, "By relying upon the virtualization or emulation capability of the server S to virtualize or emulate such devices when needed, the hardware of the server S may be optimized of the primary tasks handled by the server S").

8. Regarding claims 4, 14, 24, and 34, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the functionality of the second mode is independent of the functionality of the first mode (see Abstract, "virtualization OR emulation").

9. Regarding claims 5, 15, 25, and 35, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 4 wherein the functionality of the second mode disables the functionality of the first mode (see Figure 3; page 3, "device driver functionality handled by the FPGA 112 acting as virtual input device...the image can be decompressed in response...").

10. Regarding claims 6, 16, 26, and 36, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the second mode is enabled through the use of a prescribed sequence of commands or

data that change a value in at least one register (see Figure 3; page 3, "device driver functionality handled by the FPGA 112 acting as virtual input device...the image can be decompressed in response...").

11. Regarding claims 7, 17, 27, and 37, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the second mode is enabled through the use of at least one bit in a virtual device register (see Figures 6A-6B; page 3, "...is a 16-bit register for storing the ID for the server vendor...").

12. Regarding claims 8, 18, 28, and 38, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the second mode is enabled through the use of at least one bit in a register specifically created for utilization by one or more virtual devices (see Figures 6A-6B; page 3, "...is a 16-bit register for storing the ID for the server vendor...").

13. Regarding claims 9, 19, 29, and 39, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the second mode is enabled through the use of a prescribed sequence of commands or data that change a value in at least one register (see Figures 6A-6B; page 3, "...revision ID register...8-bit register storing a revision number...").

14. Regarding claims 10, 20, 30, and 40, Luciani teaches:

The method (system, system, computer-readable instructions) of claim 2 wherein the second mode is enabled through the use of a second mode driver installed within a

guest operating system environment (see Figure 4, "forward request from operating system to network stack"); and

if the second mode driver is not present, a first mode driver is instead enabled (see page 1, "a server employs input device virtualization OR emulation...may reside on a remote management card...").

Additional References

15. Additional references relevant to the art of the application are: US PGPub 2002/0143842, Cota-Robles, et al.; US Patent 5,940,613, Berliner; US Patent 6,785,894, Ruberg.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nithya Janakiraman whose telephone number is 571-270-1003. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on (571)272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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11/9/06